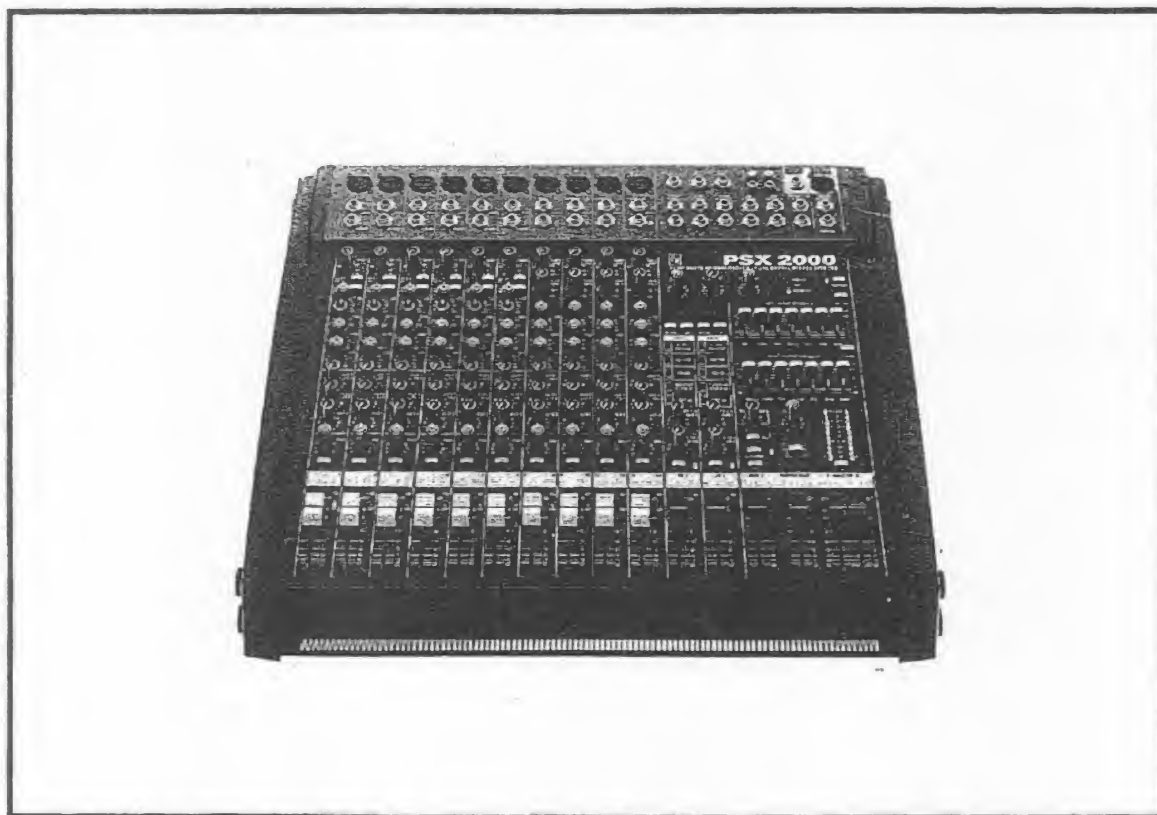




Electro-Voice®

PSX 2000 STEREO POWERED MIXER

SERVICE MANUAL



IMPORTANT SAFETY INSTRUCTIONS



WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK,
DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.
AVIS: RISQUÉ DE CHOC ELECTRIQUE. NE PAS OUVRIR.



The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

1. Read these instructions before installing unit.
2. Keep these instruction for future reference.
3. Heed all warnings contained in these instructions.
4. Do not use this apperatus near water.
5. Do not block any ventilation openings.
Install in accordance with the manufactures instructions.
6. Refer all servicing to qualified service personnel.

SPECIFICATIONS: PSX 2000

measuring standards : IEC 268, IHF-A
level : 0 dBu = 775 mV (RMS)

frequency : 1kHz

MEASURING CONDITIONS

1. Rated setting:

gain controls at UNITY GAIN 0 dB (20 dB MIC), all faders at 0 dB-position, master fader at +6 dB, all other controls at their center position

2. Equivalent input noise

input	source impedance	gain control
LINE	50 ohms	unity gain (20dB)
MIC	150 ohms	maximum gain

3. Generally, distortion is distinguished as THD+noise. The bandwidth (MBW) is 80 kHz. The mixer is set to rated output power.

DUT	U(I) at the corresponding input	U(O) at the measured output	frequencies
LINE	+10 dBu	+ 16 dBu	1 kHz, 10 kHz
MIC	- 10 dBu	+ 16 dBu	1 kHz, 10 kHz
Power Amplifier	+ 6 dBu	250 watts / 8 ohms	20 Hz 20 kHz

4. Measurement of the frequency response at 20 dB below maximum level.

5. Crosstalk and attenuation at rated setting U (A) - 16 dBu with band pass filter, variable.

6. Common mode rejection CMRR (selective with band pass filter, variable).

Input	U(E)	output	gain control
LINE	+ 16 dBu	Main Out	Unity Gain (20dB)
MIC	- 50 dBu	Main Out	Gain max.

POWER SUPPLY

1. mains voltage: AC
2. rated mains supply: 120 volts
3. rated mains frequency: 50 - 60 Hz
4. maximal permissible deviation: -30 % ... +10 %
5. power consumption (both channels outputting a 1 kHz sine signal, respectively pink-noise)

power consumption at RL - 4 ohms	PSX 2000
power consumption, no load	80 ... 120 watts
rated power consumption	1600 watts
standard power consumption	520 watts
maximum power consumption (THD - 1 %)	1600 watts
power consumption at 1/8 of the maximum output	600 watts
power consumption at 1/3 of the maximum output	850 watts

INPUT CHARACTERISTICS

Mixer at rated setting, rated output levels, input sensitivity, gain, channel faders and master faders at maximum.

INPUT	rated input level (dBu)	input sensitivity	max. input level (dBu)	input impedance	input stage
MIC	-60 ... -10	-74 dBu (155 μ V)	+11	1.8 k ohms	balanced
MONO LINE	-40 ... +10	-44 dBu (4.9 mV)	+30	18 k ohms	balanced
STEREO LINE	-20 ... +10	-34 dBu (15.5 mV)	+30	18 k ohms	balanced
INSERT RET. CHANNEL	0	-	+20	>3.3 k ohms	unbalanced
INSERT RET. MASTER	-6	-	+20	>2.2 k ohms	unbalanced
EQ IN	+6	-	+20	>8 k ohms	balanced
POWER AMP	+6	+6 dBu (1.55 V)	+20	18 k ohms	balanced
2TRACK RET.	+4	-	+14	>8 k ohms	unbalanced
STEREO RET.	0	-	+14	>15 k ohms	balanced

OUTPUT CHARACTERISTICS mixer

OUTPUT	rated output level (dBu)	max. output level (dBu)	output impedance	output stage
INSERT SEND CHANNEL	0	+ 20	75 ohms	unbalanced
INSERT SEND MASTER	- 6	+ 20	75 ohms	unbalanced
MAIN OUT	+ 6	+ 20	75 ohms	GND-sense
EQ OUT	+ 6	+ 20	75 ohms	GND-sense
MONO OUT	+ 6	+ 20	75 ohms	GND-sense
AUX ½ SEND	0	+ 20	75 ohms	GND-sense
AUX 3 SEND	0	+ 20	75 ohms	GND-sense
REC. SEND	- 7,8 (-10 dBV)	+ 16	1 k ohm	unbalanced
PHONES	-2 / 200 ohms	+ 18 / 200 ohms	47 ohms	unbalanced
LAMP	12 V DC/2.4 watts	---	---	---

OUTPUT CHARACTERISTICS power amplifier

rated input voltage at Power Amp In	rated load impedance	rated output power, single channel THD < 0.1 %	max. output power, single channel THD = 1 %	max. single channel output power) ¹	rated output voltage	max. output voltage, no load	max. output voltage THD = 1 %
+ 6 dBu	8 ohms	250 watts	340 watts	360 watts	44.7 V	58 V	53.6 V
+ 6 dBu	4 ohms	500 watts	570 watts	680 watts	44.7 V	58 V	47.7 V

)¹ measured with Dynamic Headroom test signal, according IHF-A: 1 kHz Burst, 20 ms On, 480 ms Off

STABILIZING of the power amplifier

Single channel, nominal output voltage

	8 ohms	4 ohms
stabilizing	0.57 %	1 %
stabilizing level	0.05 dB	0.09 dB

FREQUENCY RESPONSE

amplification frequency response (-3 dB dropped below the level of the nominal frequency 1kHz):

input	output	f (u) at -3 dB	f (o) at -3 dB
POWER AMP IN	SPEAKER L&R	45 Hz	54 kHz
MIC	MAIN OUT L&R	15 Hz	90 kHz
LINE	SPEAKER L&R	15 Hz	60 kHz
others	all other outputs	15 Hz	80 kHz

distortion-limited transmission range (effective bandwidth) of the power amplifier:

Input	f (u)	f (o)	notes
Power Amp Input	25 Hz	60 kHz	THD = 0.4 %, 1/2 rated output capacity at 4 ohms, MBW = 500 kHz

NON-LINEAR AMPLITUDES (single channel)

power amplifier input = Power Amp In	power amplifier R(L) = 8 ohms	power amplifier R(L) = 4 ohms	notes
rated overall distortion	< 0.03 % / 0.1 %	< 0.05 % / 0.2 %	MBW = 80 kHz, f = 1 kHz / 10 kHz
standard overall distortion	< 0.03 % / < 0.03 %	< 0.05 % / < 0.05 %	MBW = 80 kHz, f = 1 kHz / 10 kHz
IMD-SMPTE	< 0.01 %	< 0.015 %	60 Hz, 7 kHz
DIM 30	< 0.01 %	< 0.015 %	3.15 kHz, 15 kHz
DIM 100	< 0.01 %	< 0.015 %	3.15 kHz, 15 kHz

mixer section	THD+N f = 1 kHz	THD+N f = 10 kHz	notes
LINE Input -> MAIN OUT	< 0.006 %	< 0.02 %	
LINE Input -> MONO OUT	< 0.006 %	< 0.02 %	
LINE Input -> AUX SEND	< 0.01 %	< 0.02 %	
LINE Input -> EQ OUT	< 0.006 %	< 0.02 %	
MIC Input - INSERT SEND	< 0.002 %	< 0.002 %	
MIC Input - MAIN OUT	< 0.006 %	< 0.02 %	
2TRACK -> MAIN OUT	< 0.006 %	< 0.015 %	
STEREO RET. -> MAIN OUT	< 0.006 %	< 0.015 %	

CROSSTALK AND ATTENUATION

	f = 1kHz	f = 10 kHz	notes
fader attenuation			
MONO CHANNEL	> 80 dB	> 80 dB	
STEREO CHANNEL	> 80 dB	> 80 dB	
MASTER	> 80 dB	> 80 dB	
MONO	> 80 dB	> 80 dB	
AUX/FX	> 80 dB	> 80 dB	
rotary control attenuation			
AUX	> 80 dB	> 65 dB	
PAN (BAL)	> 60 dB	> 60 dB	
2 TRACK RETURN	> 90 dB	> 90 dB	
STEREO RETURN	> 90 dB	> 80 dB	
switch attenuation			
STANDBY	> 90 dB	> 80 dB	
PFL	> 80 dB	> 70 dB	
crosstalk			
Endstufe L/R	> 60 dB	> 60 dB	Power Amp In
Kanal - Kanal	> 70 dB	> 70 dB	
common mode rejection			
CMRR MIC	> 80 dB	> 60 dB	
CMRR LINE	> 40 dB	> 40 dB	
CMRR STEREO LINE	> 40 dB	> 40 dB	
CMRR MASTER Inputs	> 40 dB	> 40 dB	

NOISE

- U (F) = hum & noise, unweighted with B = 22 Hz ... 22 kHz, RMS (IEC 268-1)
- U (G) = noise voltage, frequency weighting filter according to CCIR-468-3, quasi-peak-rated (IEC 268-1)
- U (A) = interfering voltage A-weighted, dB (A), RMS (IEC 268-1)
- S/N ratio maximum output voltage at 4 ohms 47.7 volts (+35.8 dBu) in relation interfering voltage A-weighted

measurement	U(F)	U(A)	U(G)	EIN (A)	S/N-Ratio (A)	output	notes
power amplifier	-67 dBu	-69 dBu	-56 dBu	-----	104 dB	SPEAKER OUT	Power Amp In, R(Q) = 50 Ω
residual noise	-90 dBu	-92 dBu	-79 dBu	-----	100 dB	MAIN OUT	MASTER at minimum
total noise MASTER	-87 dBu	-88 dBu	-75 dBu	-----	-----		MASTER at 0 dB, channel down.
typical mixer noise	-81 dBu	-83 dBu	-68 dBu	-----	-----		all faders at 0 dB, Unity Gain
MIC (150 ohms)	-67.5 dBu	-69.5 dBu	-56.5 dBu	130 dBu		INSERT	Gain max.
LINE (50 ohms)	-57 dBu	-59 dBu	-46 dBu	100 dBu			Gain max.

power amp **DAMPING FACTOR** : >200

power amp **SLEW RATE** : >20 V/ μ s

INDICATORS

PEAK (channel)	: 6 dB below maximum level
SIGNAL (channel)	: 25 dB below PEAK-indication
MAIN 10-segment	: 27 dB ... +6 dB (measured in dB at the MAIN OUT)
PEAK (FX 1/2)	: 6 dB below maximum level

PHANTOM POWER : 24 volts dc, commonly switched

SOUND CONTROLS

	LO (shelving)	MID (peaking)	HI (shelving)
MONO (MIC) INPUT	± 15 dB / 60 Hz	± 15 dB 100 Hz ... 8 kHz Q = 1	± 15 dB / 12 kHz
STEREO INPUT	± 15 dB / 60 Hz	± 12 dB / 2.4 kHz Q = 0.7	± 15 dB / 12 kHz

GRAPHIC EQUALIZER (master section)

2 x 7 band: 80 Hz, 250 Hz, 630 Hz, 2.5 kHz, 4 kHz, 8 kHz, 16 kHz; ± 10 dB, Q = 1.4

FILTER

LO-CUT; f = 80 Hz; 18 dB/oct. (monaural inputs)
VOICING FILTER (monaural inputs)
FEEDBACK FILTER (AUX3) controllable 80 Hz ... 7.7 kHz / notch / -9 dB

FX-SECTION

2 separately controllable stereo FX-units, 18 bit, UP/DOWN-keys, each with 99 program presets (delay, reverb, modulation, and mixed programs)

DIMENSIONS AND WEIGHT

	PSX 2000 desktop model	PSX 2000 rack mount model
Width	508.5 mm	483 mm
Height	210.3 mm	443.7 mm (10 H.E.)
Depth	478.7 mm	195.2 mm
Weight	20 kg	21.5 kg

EXTENSION KITS

NRS 90 220	19" rack-mount-ears for the PSX 2000 No. 112 698
DCN 112700	gooseneck lit-light, 12 volts/2.4 watts, 12", XLR-connector
DCN 110693	foot switch FS11

NOTE when mounting the PSX 2000 in a rack shelf system:

To protect the appliance against thermal overload, a space of at least 2 HU has to be left directly below and above the PSX 2000 which can be covered using dummy plates. In case the rack shelf is equipped with front and rear covers, these have to be detached.

MEASUREMENT DATA PSX 2000, complete

measuring conditions :

measurement tolerance:	$\Delta X = \pm 1.5 \text{ dB}$
test frequency:	$f = 1 \text{ kHz}$
reference level:	$U = 775 \text{ mV (0dB)}$
source impedance LINE:	$R(Q) = 50 \Omega$
source impedance MIC:	$R(Q) = 150 \Omega$
load impedance mixer outputs:	$R(L) = 100 \text{ k}\Omega$
load impedance headphones:	$R(L) = 2 \times 200 \Omega$
load impedance power amplifier:	$R(L) = 4 \Omega, 8 \Omega,$
EQ, PAN, BAL controls:	center position
FADER:	0 dB-position
gain controls:	Unity Gain = 0 dB (MIC 20 dB)
AUX, LEVEL controls:	center position
measurement standards:	IEC 268, IHF-A
safety class:	I
test voltage IEC65:	3000 Vrms
U (F) = hum & noise	unweighted with B = 22 Hz ... 22 kHz, rms (IEC 268)
U (G) = noise voltage	frequency weighting filter according to CCIR-468-3, quasi-peak-rated (IEC 268)
U (A) = interfering voltage	A-weighted, dB (A), rms (IEC 268)

• The printed board assembly is provided with service terminals. The assignment of these terminals complies to the following table:

CNSERV 1	Belegung	CNSERV 2	Belegung
1	-Vcc	1	LIM L
2	BIAS + R	2	-15V
3	BIAS - R	3	LIM R
4	FAN-Voltage	4	+5V
5	+Vcc	5	+24V
6	BIAS + L	6	+15V
7	BIAS - L	7	TEMP -Heatsink
8	Temp +Heatsink	8	GND

1. operating voltage: $U(B) = 120V / 50\text{Hz} \dots 60 \text{ Hz}$

2. critical tolerance (operating voltage): $- 30\% \dots +10\%$

3. power consumption (both channels driven):

	power consumption	current
no load	80....120W	-----
rated operation (RL = 4 ohms) @ 2 x 470 watts	1600 W	17.7 A

4. adjustments:

4.1 IDLE-CIRCUIT CURRENT ADJUSTMENT:

A DC-voltmeter has to be connected to the BIAS test points to adjust the idle-circuit current via the trimmer on the printed board assembly 84170. Adjustment of both power amplifier channels L&R.

Adjustment	test point 1	test point 2	U (DC)	BIAS-trimmer
BIAS L	CNSERV1.6	CNSERV1.7	4 mV	VR301
BIAS R	CNSERV1.2	CNSERV1.3	4 mV	VR501

Adjustment of the idle-circuit current has to be performed under normal room temperature conditions. If the power amplifier had been operated before, the appliance has to rest for several hours to cool off.

4.2 VCA - OFFSET:

You have to rhythmically open and short-circuit the CNSERV2.1 and CNSERV2.2 for the left channel respectively the CNSERV2.3 and CNSERV2.2 for the right channel, that are located on the printed board assembly 84170, and adjust the power amplifier output signals for minimal offset, using VR300 respectively VR500 (using an oscillograph it has to be set for minimal peak or for audibly minimal loudness of the interference pulse).

5. function test:

5.1 OUTPUT - offset voltage

DC-voltage measurement at the speaker outputs CHANNEL L/R with $U(DC) < \pm 10 \text{ mV}$.

5.2 LIMITER:

5.2.1. attenuation test

Drive each channel with a 1 kHz signal until output voltage = 50 volts (no load). Increase the input voltage by 10 dB. The LIMITER LED will light and the output voltage is increased by about 1 dB to 57 volts. The signal is slightly driven into clipping with a distortion rate of the limited signal: THD = 1.0 % ... 1.5 %. Further increasing the input signal up to +20 dBu should not result in excessive higher clipping.

5.2.2. Attack and release

- test the amplifier channels separately: testing should be performed without load resistors.

1.) Drive the power amplifier inputs with a burst signal ($f = 1 \text{ kHz}$, 10 cycles, rate: 0.5 sec.) and $U(in) = +16 \text{ dBu}$.

2.) Observe the output signal via an oscilloscope. After 3 - 4 signal periods, the limiter attenuated the "heavy" distortion in the beginning to a minor rest distortion (THD of 1.0 % ... 1.5 %).

attack time: 3 - 4 ms

release time: 30 - 40 ms

5.3 CUT-IN DELAY:

After turning on the appliance using the power-on switch, it takes about 2 seconds until the input signal is present on the power amplifier's outputs. The relay E2 on the printed board assembly 85267 bridges the NTC-resistor for limiting the inrush current.

5.4 FAN CONTROL:

When switching the power amplifier on, the internal fan coolers will run for approximately 2 seconds.

Afterwards, they stop, provided that the power amplifier is "cold". During the power amplifier is operated with no load (power on, no input signal), the ventilators switch back and forth between SLOW-mode and OFF-mode, depending on the heat sinks' temperature. When unplugging the CN14 connector, the fans will run on FAST speed. Ventilator-voltage -27 volts DC, measured between CANSERV1.4 and CANSERV2.8.

5.5 SOAR PROTECTION CIRCUIT TEST:

Drive each channel up to 45 volts with a load of 4 ohms. Connect a 1 ohm resistor parallel. The protection circuit responds and tries to re-activate continuously! The protect-LED lights. Repeat the test with a load of 20 ohms. The power amplifier has to stay in operation.

5.6 SHORT-CIRCUIT CURRENT-LIMITING TEST:

Test the power amplifier channels separately, without load:

- drive the power amplifier inputs with a burst signal ($f = 1 \text{ kHz}$, 10 cycles, rate: $\approx 0.5 \text{ sec.}$) and $U(E) = +6 \text{ dBu}$.
- include an 1 ohms load resistor.
- the short-circuit current-limiting circuitry attenuates the output voltage at the load resistor symmetrically (observe on the oscilloscope) to a peak voltage of 25 V - 27 V (approx. 25 A - 27 A maximum peak current).

5.7 DC-VOLTAGE PROTECTION CIRCUIT TEST:

This test can only be performed when measuring single printed board assemblies.

Test the power amplifier channels separately:

- drive each channel of the power amplifier with a test signal ($f = 4 \text{ Hz}$) applied to the FET Q316 respectively Q516 Drain, without load.
- when reaching an input voltage of approximately 10 dBu, the protection circuit responds and tries to re-activate continuously! The protect-LED lights.
- Repeat the test using a test signal of $f = 14 \text{ Hz}$. The power amplifier has to stay in operation.

5.8 HIGH FREQUENCY PROTECTION CIRCUIT TEST:

Caution: Operate the power amplifier under all circumstances without load resistors connected. Apply to one power amplifier channel at the time a sine burst of $f = 80 \text{ kHz}$ (40 ms ON, 960 ms OFF) with +20 dBu. The protection circuit has to respond and the power amplifier tries to re-activate continuously. The PROTECT-LED blinks rhythmically. Repeat the test with $f = 50 \text{ kHz}$. The power amplifier has to stay in operation.

6. Level

All level controls within the signal path fully open.

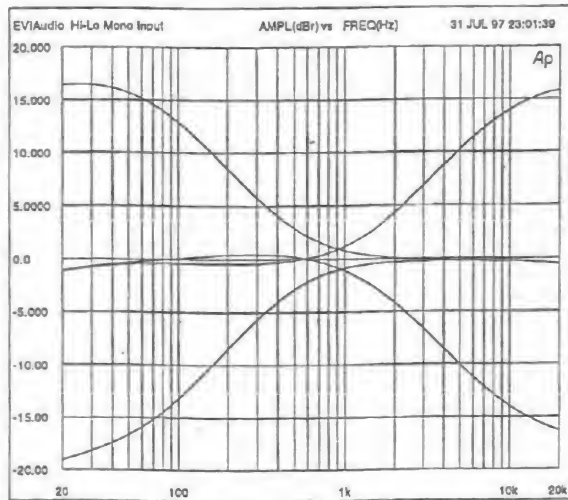
Input	U(in)	Output	U(out)	remarks
MIC Mono	-60 dBu	INSERT Mono	0 dBu	Gain max.
LINE Mono	-54 dBu	SPEAKER L&R	44.7 V	EQ Bypass
INSERT RETURN Mono	-14 dBu	SPEAKER L&R	44.7 V	
MIC Stereo	-60 dBu	MAIN INSERTS	+4 dBu	
LINE Stereo L/Mono	-34 dBu	MAIN OUTPUT L&R	+6 dBu	
LINE Stereo R	-34 dBu	MAIN OUTPUT R	+6 dBu	
STEREO RET. L/Mono	-24 dBu	EQ OUTPUT L&R	+2 dBu	EQ ON
STEREO RET. R	-24 dBu	EQ OUTPUT R	+2 dBu	EQ ON
2 TRACK RET.	-24 dBu	MONO OUTPUT	0 dBu	
LINE Mono	-44 dBu	REC. SEND	0 dBu	
2 TRACK RET.	-20 dBu	AUX3 SEND	-12 dBu	
LINE Mono	-60 dBu	AUX1 SEND	+20 dBu	
LINE Mono	-60 dBu	AUX2 SEND	+20 dBu	
LINE Mono	-60 dBu	AUX3 SEND	+5 dBu	AUX3 PRE
LINE Mono	-60 dBu	AUX3 SEND	+15 dBu	AUX3 POST
LINE Stereo L/Mono	-44 dBu	AUX3 SEND	+0 dBu	AUX3 PRE
LINE Stereo L/Mono	-44 dBu	AUX3 SEND	+8 dBu	AUX3 POST
LINE Stereo L/Mono	-44 dBu	AUX1 SEND	+13 dBu	FX1 off
LINE Stereo L/Mono	-44 dBu	AUX2 SEND	+13 dBu	FX2 off
LINE Mono	-44 dBu	PHONES L&R	+8 dBu	PFL CHANNEL engaged
LINE Stereo L/Mono	-24 dBu	PHONES L&R	+8 dBu	PFL CHANNEL engaged
LINE Stereo L/Mono	-24 dBu	PHONES L&R	+18 dBu	PFL MASTER engaged
LINE Stereo L/Mono	-34 dBu	PHONES L&R	+11 dBu	PFL AUX3 engaged /AUX3 PRE
POWER AMP INPUT L&R	+ 6 dBu	SPEAKER L&R	44.7 V	no distortion

7. Amplitudes and non-linearity

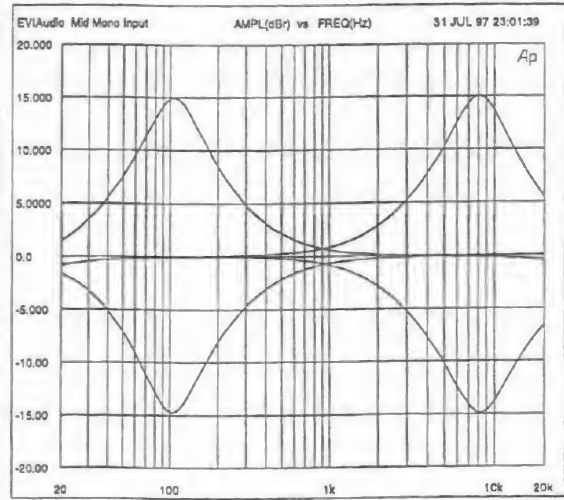
- measurement of the power amplifier with an 8 ohms load resistor, one channel driven.
- MBW = 80 kHz,
- DIM 30: 3.15 kHz, 15 kHz
- SMPTE: 60 Hz, 7 kHz, 4:1

input	output	THD+N @ 1 kHz	THD+N @ 10 kHz	DIM 30	SMPTE	remarks
MIC Mono/Stereo	EQ OUTPUT L&R	<0.005 %	<0.02 %	<0.01 %	<0.01 %	U(out) = 16dBu
LINE Mono	EQ OUTPUT L&R	<0.005 %	<0.02 %	<0.01 %	<0.01 %	U(out) = 10 dBu
LINE STEREO	EQ OUTPUT L&R	<0.005 %	<0.02 %	<0.01 %	<0.01 %	U(out) = 10 dBu
POWER AMP IN	SPEAKER OUT L&R	<0.03 %	<0.1 %	<0.01 %	<0.01 %	Pab = 250W

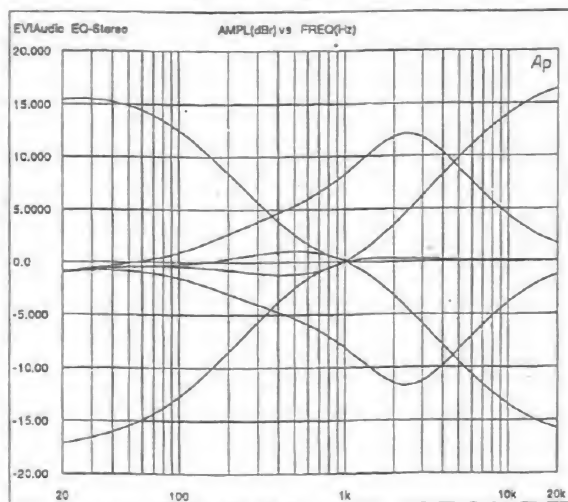
8. Frequency response



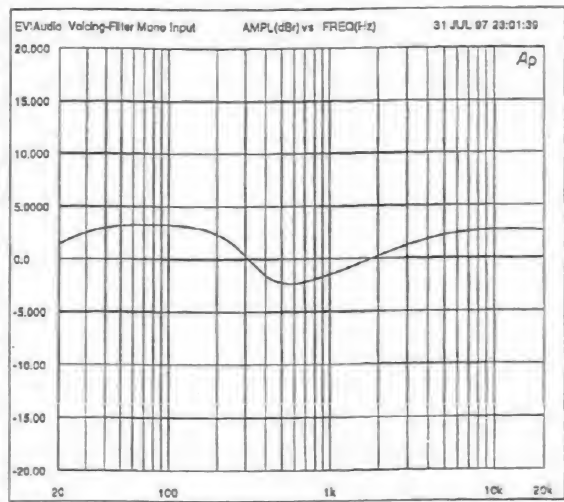
EQ Mono Input HI/LO



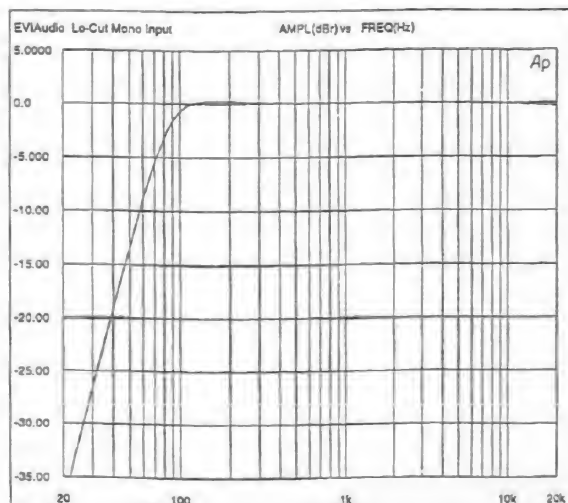
EQ Mono Input MID



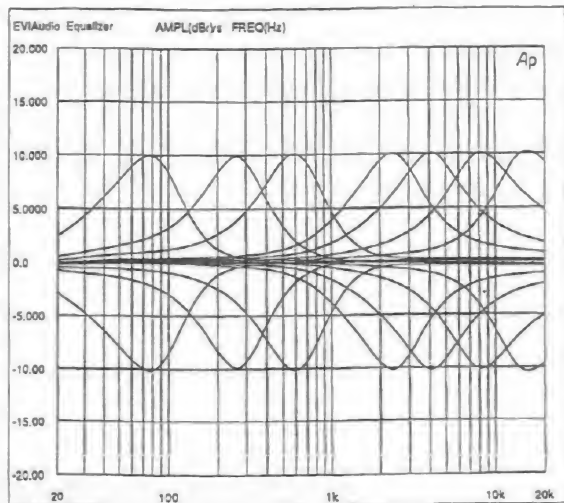
EQ Stereo Input



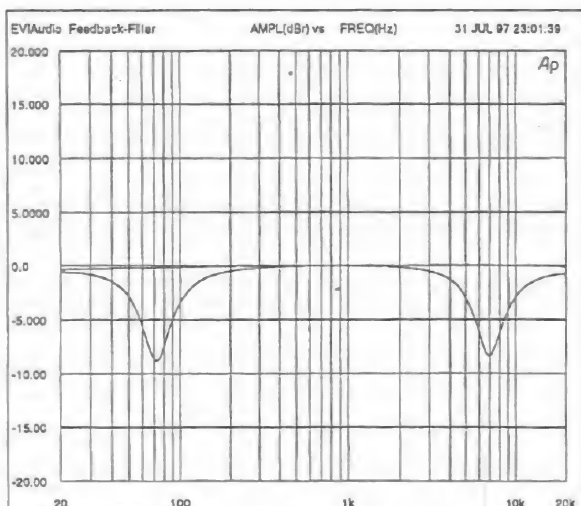
VOICING FILTER Mono Input



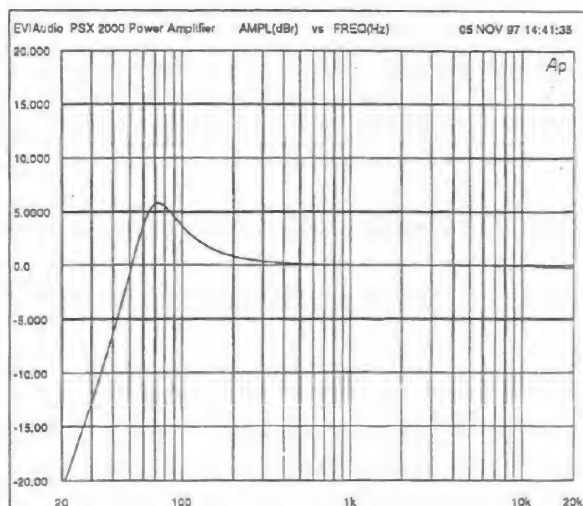
LO-CUT Mono Input



7-BAND EQUALIZER MASTER



FEEDBACK FILTER AUX3



Power Amplifier

8.2 cut-off frequencies -3 dB @ 1 kHz

All level controls within the signal path fully open.

Input	Output	f(u)	f(o)
MIC Mono	SPEAKER L&R	52 Hz	83 kHz
MIC Stereo	SPEAKER L&R	52 Hz	83 kHz
LINE Mono	SPEAKER L&R	52 Hz	47 kHz
LINE Stereo	SPEAKER L&R	45 Hz	33 kHz
Power Amp In	SPEAKER L&R	45 Hz	95 kHz
LINE Stereo	AUX3	10 Hz	33 kHz
LINE Stereo	AUX2	12 Hz	33 kHz
LINE Stereo	AUX1	12 Hz	33 kHz
LINE Stereo	MONO OUT	8 Hz	33 kHz
LINE Stereo	REC.SEND	8 Hz	30 kHz
MIC Mono	INSERT SEND	50 Hz	100 kHz

9. Noise & Hum

- U (F) = extraneous voltage, unweighted with B = 22 Hz ... 22 kHz, rms (IEC 268-1)
- U (G) = noise voltage, frequency weighting filter according to CCIR-468-3, quasi-peak-rated (IEC 268-1)
- U (A) = interfering voltage A-weighted, dB (A), rms (IEC 268-1)
- S/N ratio maximum output at 4 ohms = 47.7 volts (+35.8 dBu) in relation to interfering voltage A-weighted

Input	Output	U(F) dBu	U(G) dBu	U(A) dBu	GAIN dB	EIN(A) dBu	S/N- R. dB	Remarks
Power Amp In	SPEAKER L&R	-67	-56	-69	29.2	---	104	Power Amp In R(Q) = 50 Ω
----	EQ OUT	-78	-67	-80	---	---	---	master up, EQ by-pass, channel down
----	EQ OUT	-90	-79	-92	---	---	---	master down, EQ by-pass, channel down
----	EQ OUT	-88	-77	-90	---	---	---	master down, EQ on, channel down
MIC Mono	MAIN	-47	-36	-49	81	130	---	MASTER, CHANNEL and GAIN up, R (Q) = 150 Ω
MIC Mono	MAIN	-74	-63	-75	30	105	---	MASTER, CHANNEL and GAIN down, R (Q) = 150 Ω
MIC Stereo	MAIN	-46	-35	-48	82	130	---	MASTER, CHANNEL and GAIN up

MIC Stereo	MAIN	-71	-60	-73	31	104	---	MASTER and CHANNEL up, GAIN down
LINE Stereo	MAIN	-45	-34	-47	41	88	---	MASTER, CHANNEL and GAIN up
LINE Stereo	MAIN	-71	-60	-73	11	84	---	MASTER and CHANNEL up, GAIN down
LINE Mono	MONO	-62	-51	-64	24	88	---	MONO, MASTER and CHANNEL up, GAIN down
PSX 2000	AUX1	-64	-53	-66	---	---	---	AUX 1, CHANNEL down
PSX 2000	AUX2	-64	-53	-66	---	---	---	AUX 2, CHANNEL down
PSX 2000	AUX3	-71	-60	-73	---	---	---	AUX 3, CHANNEL down,
---	2 TRACK	-94	-84	-96	---	---	---	CHANNEL down

10. operation voltages and service test points

voltage measured at the corresponding pin referred to GND CANSERV2.8

84170	Power Amp	measured in idle condition	interfering voltage and ripple-voltage U (F) rms
CANSERV 1	assignment		
1	-Vcc	-82Vdc	70 mVrms
2-3	BIAS R	4 mV	----
4	FAN-Voltage	stage 0: 0 volts stage I: 13.5 volts stage II: 27 volts	----
5	+Vcc	+82Vdc	70 mVrms
6-7	BIAS L	4 mV	----
8	Temp +heatsink	variable *1	----
CANSERV 2			
1	LIM L	----	----
2	-15V	-15.5Vdc	250 μ Vrms
3	LIM R	----	----
4	+5V	+5Vdc	40 μ Vrms
5	+24V	+25Vdc	120 μ Vrms
6	+15V	+15.5Vdc	250 μ Vrms
7	TEMP -heatsink	variable *1	----
8	GND	GND	----
CN2			
20	LAMP	12.5Vdc	1.5 mVrms

* see also paragraph 11

11. Heat sink temperature

DC-voltage measured at the corresponding pin referred to GND (CANSERV2.8)

heat sink temperature	25 °C	40°C	60°C	80°C	100°C	120°C	140°C
Udc CANSERV1.8 (+) respectively CANSERV2.7 (-)	2.5 V	4.5 V	7 V	9.5V	11 V	13 V	14V

The critical shut-off point is reached at approx. 130°C; the power amplifier enters the protection mode.

12. Phantom power

When the +24 volts-button is engaged, the measured DC-voltage on pin 2 referred to pin 1, respectively on pin 3 referred to pin 1 of the corresponding XLR-type input connector has to be between +24 ... +26 volts.

13. FX unit

13.1 Level

- AUX1/FX1 respectively AUX2/FX2, AUX3, channel fader, AUX1/FX1 Send respectively AUX2/FX2 Send, FX1 to AUX3 respectively FX2 to AUX3, AUX3 fader, master L&R-fader fully up.
- FX1 ON-switch respectively FX2 ON-switch set to ON. Selected FX-preset 0/0.

Input	U(E)	Output	U(A)	Remarks
MIC MONO	-40 dBu	MAIN OUTPUT L&R	+18 dBu	Gain min.
MIC MONO	-40 dBu	AUX 3 SEND	+15.5 dBu	Gain min. AUX3 PRE.
MIC STEREO	-40 dBu	MAIN OUTPUT L&R	+15 dBu	Gain Mic min.
MIC STEREO	-40 dBu	AUX 3 SEND	+12.5 dBu	Gain Mic min. AUX3 PRE.
Line STEREO L / MONO	-20 dBu	MAIN OUTPUT L&R	+15 dBu	Line Trim min.
Line STEREO L / MONO	-20 dBu	AUX 3 SEND	+12.5 dBu	Line Trim min. AUX3 PRE.
Line STEREO R	-20 dBu	AUX 3 SEND	+6.5 dBu	Line Trim min. AUX3 PRE.
Line STEREO R	-20 dBu	AUX 3 SEND	+6.5 dBu	Line Trim min. AUX3 POST

13.2 Noise & Hum

- U (F) =hum, unweighted with B = 22 Hz ... 22 kHz, rms (IEC 268-1)
- U (G) = noise voltage, frequency weighting filter according to CCIR-468-3, quasi-peak-rated (IEC 268-1)
- U (A) = interfering voltage A-weighted, dB (A), rms (IEC 268-1)

Output	U(F)	U(G)	U(A)	Remarks
MAIN OUTPUT L&R	-58 dBu	-49 dBu	-60 dBu	MASTER + FX1 respectively FX2 faders max. Prog. 0
AUX 3 SEND	-60 dBu	-52 dBu	-64 dBu	AUX3-fader, FX1 respectively FX2 to AUX3 max. Prog. 0
MAIN OUTPUT L&R	-59 dBu	-49 dBu	-60 dBu	MASTER + FX1 faders max. Prog. 5
MAIN OUTPUT L&R	-58 dBu	-49 dBu	-60 dBu	MASTER + FX2 faders max. Prog.55

13.3 Functioning test

Drive the FX 1 and the FX 2 units. Listen to the signal while switching the presets.

7-segment LED-Display: All bars have to light at the same intensity.

The FX-unit should not introduce extreme digital interference or extensive noise to the audio signal.

During the (ON/OFF) switching of the FX1/2 units, no switching noise should occur.

Switch the FX unit via foot switch.

14. Gooseneck-Lamp connector

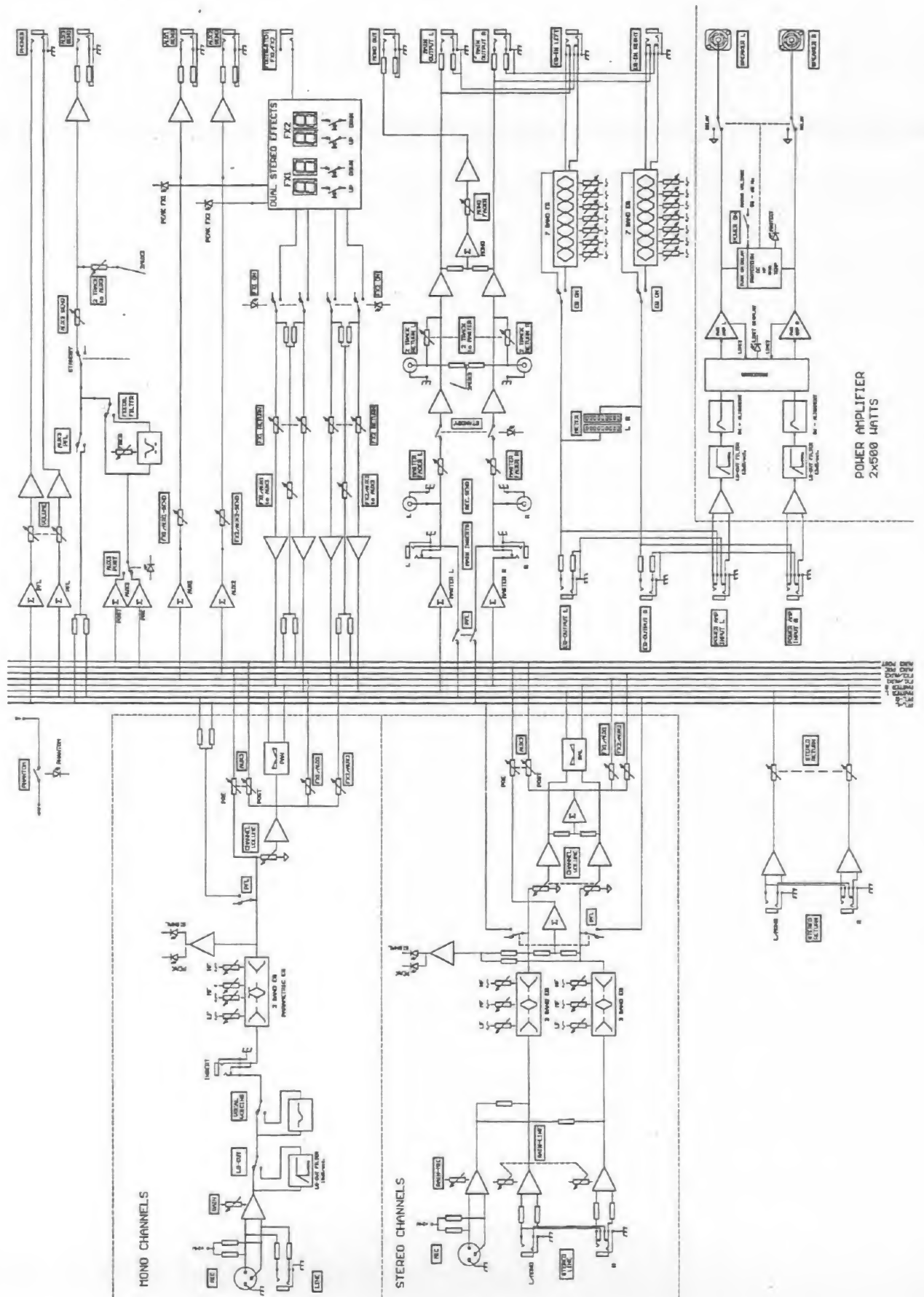
Connect a 40 ohms / 10 watts resistor to the pins 2 and 3 of the LAMP-connector. The measured voltage should indicate 12 volts DC.

15. Displays

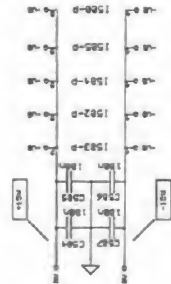
At the mentioned input-voltage the LED starts lighting. Gain and AUX1/2 controls set to their maximum with a tolerance of ± 2 dB.

Display	Input	U(E) / dBu
SIGNAL of a monaural channel	LINE Mono	- 52
PEAK of a monaural channel	LINE Mono	- 26
SIGNAL of a stereo channel	LINE Stereo L/Mono	- 32
PEAK of a stereo channel	LINE Stereo L/Mono	- 6
PEAK FX1 / FX2	LINE Mono	- 65

The display within the master section indicates the corresponding output level at the MAIN OUT; in dBu. Check the indicated display-value of the MAIN OUT for every LED.

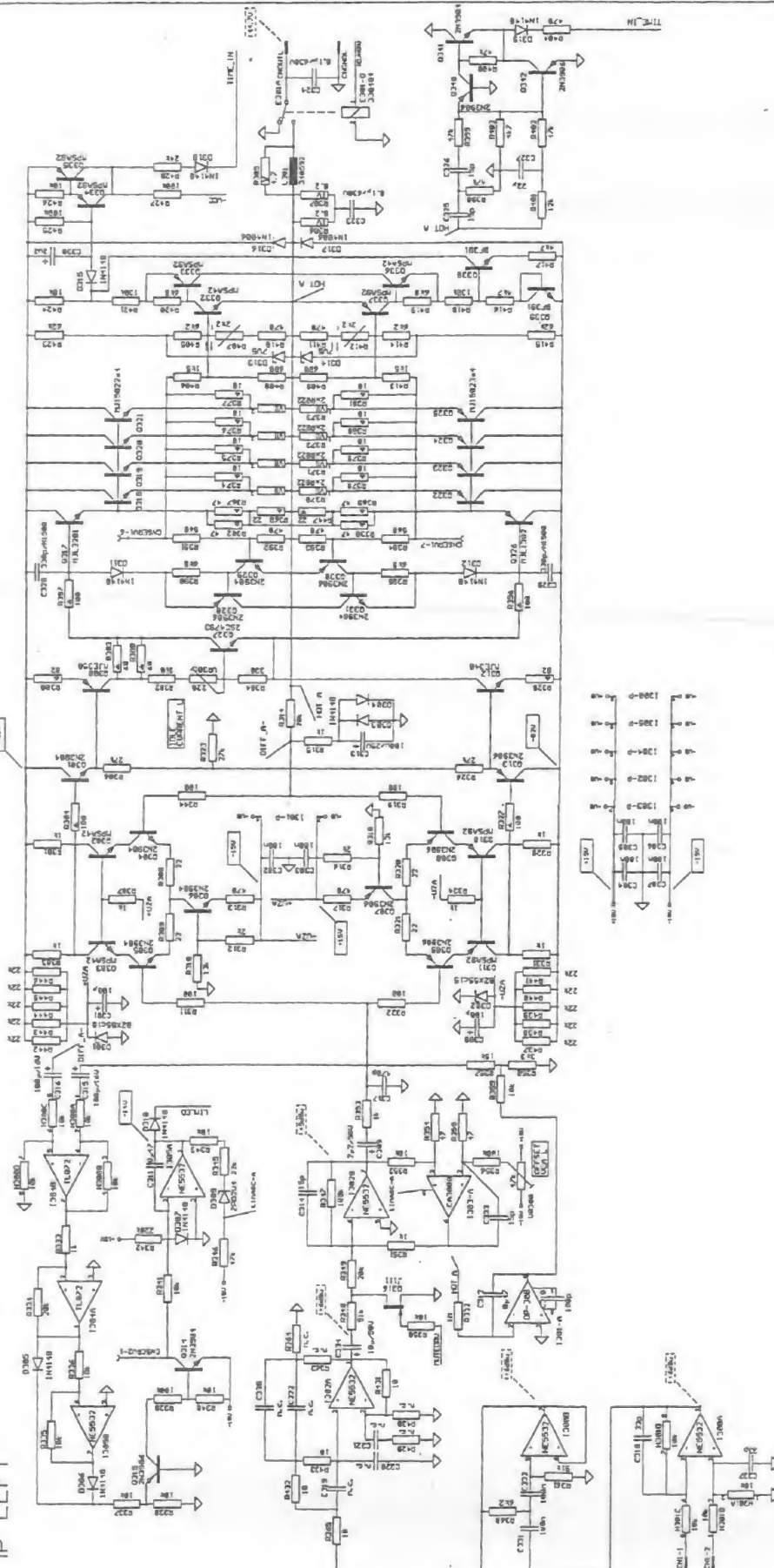


MR.

[illegible]

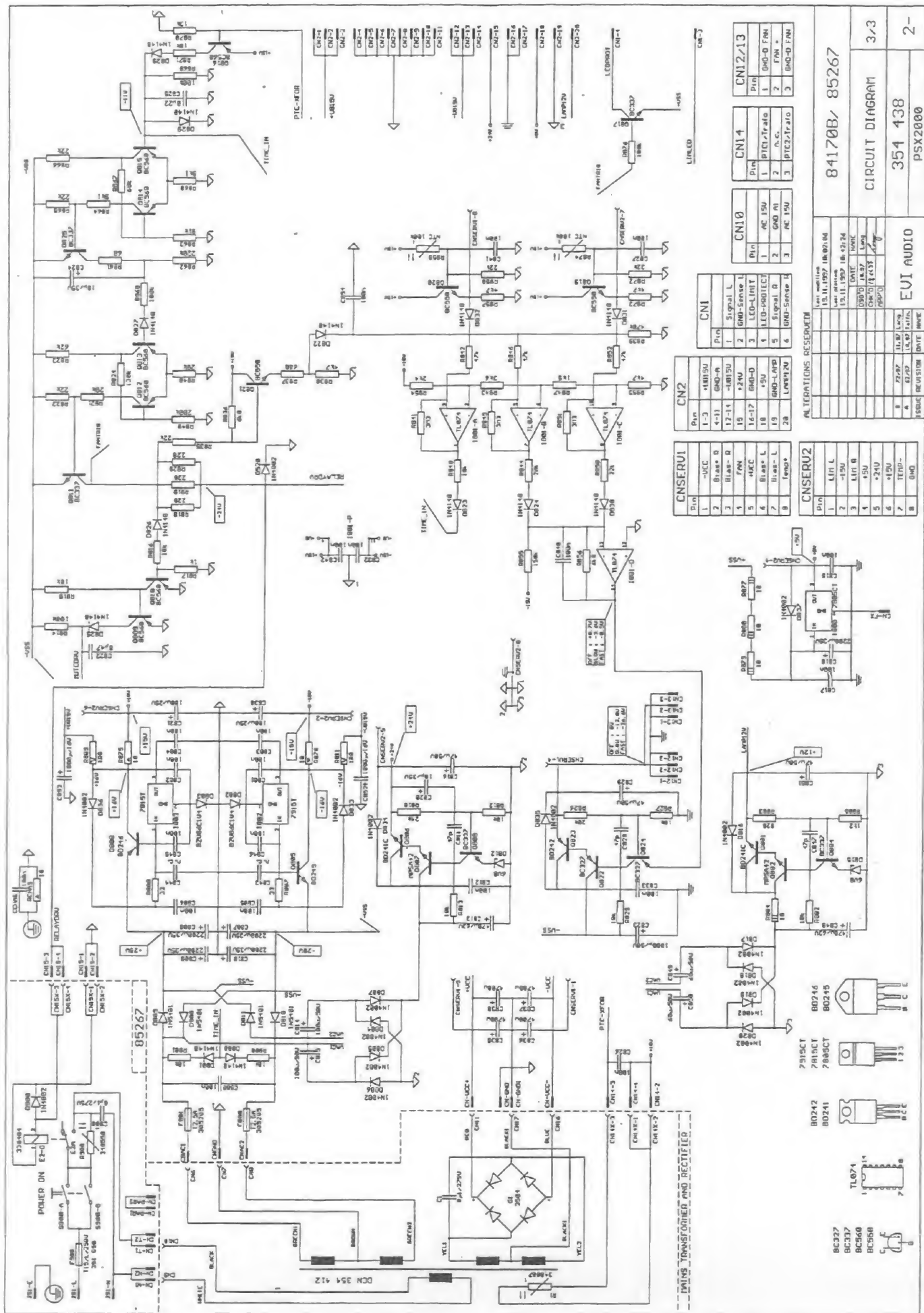
841708	Power Amplifier, High	2/3	2-
CIRCUIT DIAGRAM			
354 438			
DSY2000			
EVI AUDIO			
4. Audio (1 card) 1. 11/1/1967 10 425 06 2. 11/1/1967 10 425 09 3. 11/1/1967 10 425 10 4. 11/1/1967 10 425 11 5. 11/1/1967 10 425 12 6. 11/1/1967 10 425 13 7. 11/1/1967 10 425 14 8. 11/1/1967 10 425 15 9. 11/1/1967 10 425 16 10. 11/1/1967 10 425 17 11. 11/1/1967 10 425 18 12. 11/1/1967 10 425 19 13. 11/1/1967 10 425 20 14. 11/1/1967 10 425 21 15. 11/1/1967 10 425 22 16. 11/1/1967 10 425 23 17. 11/1/1967 10 425 24 18. 11/1/1967 10 425 25 19. 11/1/1967 10 425 26 20. 11/1/1967 10 425 27 21. 11/1/1967 10 425 28 22. 11/1/1967 10 425 29 23. 11/1/1967 10 425 30 24. 11/1/1967 10 425 31 25. 11/1/1967 10 425 32 26. 11/1/1967 10 425 33 27. 11/1/1967 10 425 34 28. 11/1/1967 10 425 35 29. 11/1/1967 10 425 36 30. 11/1/1967 10 425 37 31. 11/1/1967 10 425 38 32. 11/1/1967 10 425 39 33. 11/1/1967 10 425 40 34. 11/1/1967 10 425 41 35. 11/1/1967 10 425 42 36. 11/1/1967 10 425 43 37. 11/1/1967 10 425 44 38. 11/1/1967 10 425 45 39. 11/1/1967 10 425 46 40. 11/1/1967 10 425 47 41. 11/1/1967 10 425 48 42. 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! SAFETY COMPONENT, FLAMEPROOF RESISTOR MUST BE REPLACED BY ORIGINAL PART



SAFETY COMPONENT, FUNCTION OF DESIGN
(MUST BE ACCEPTED BY ORIGINATOR, ENGR)

[illegible]



84170B/ 85267

CIRCUIT DIAGRAM

354 438

PSX2000

84170B/ 85267

CIRCUIT DIAGRAM

354 438

PSX2000

84170B/ 85267

CIRCUIT DIAGRAM

354 438

PSX2000

84170B/ 85267

CIRCUIT DIAGRAM

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CIRCUIT DIAGRAM

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CIRCUIT DIAGRAM

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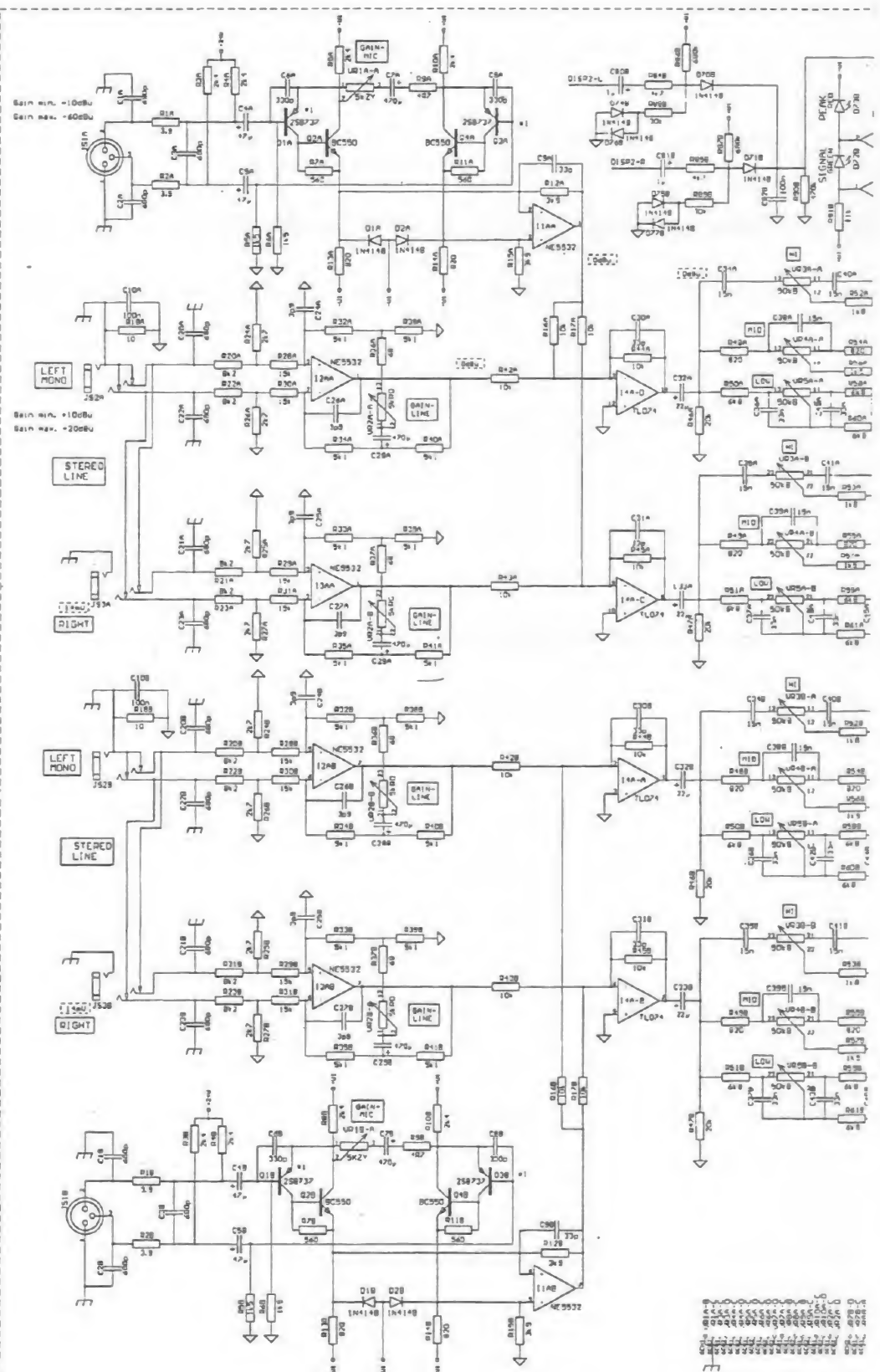
84170B/ 85267

CIRCUIT DIAGRAM

354 438

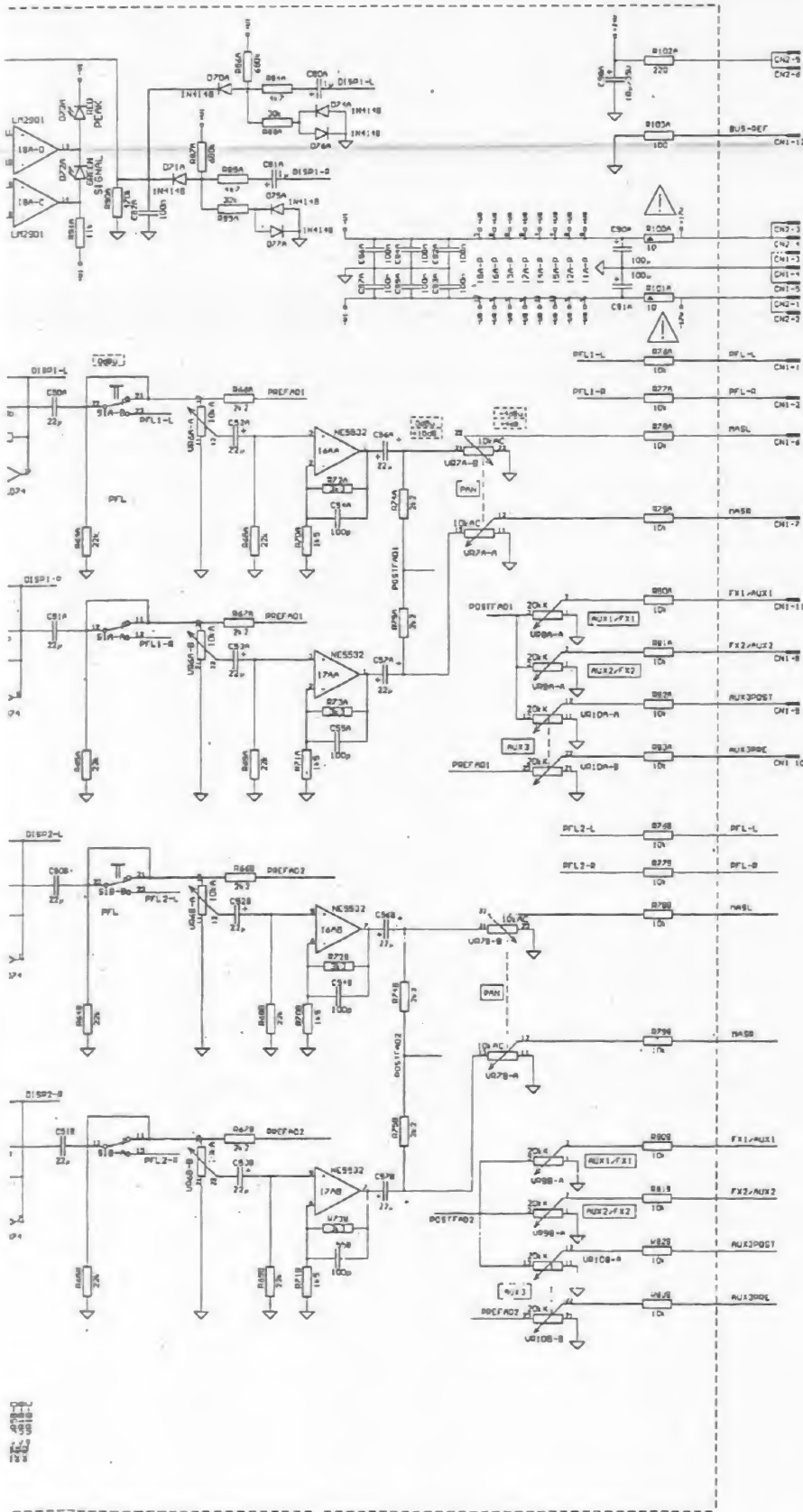
PSX2000

CHANNEL A/B



CHANNEL C/D

SAME AS CHANNEL A



NOTES:

- * 1: PART CAN BE REPLACED WITH 25A10B+ E
- AC VOLTAGE 1000 M2, MEASURED WITH UTVM
- DC VOLTAGE MEASURED WITH VOLTMETER 1000MVA/V
- FADER IN RATED POSITION (0 dB)
- ADDITIONAL BATH WITH FADER IN MAX. POSITION
- SAFETY COMPONENT MUST BE REPLACED BY ORIGINAL PARTS

RATED CONDITIONS:

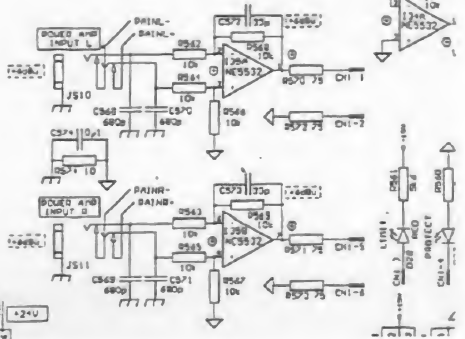
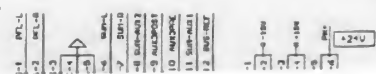
BATH ROTS MAX. OR MAX.
ALL ROTS IN CENTER-POSITION
ALL FADERS AT 0dB
MASTER-FADER-L-R AT +6dB



ALTERATIONS RESERVED

REVISION	DATE	NAME
1	31.07.1987	10 264:20
2	25.08.1987	08 48:53
3	05.09.1987	08 48:53
4	05.09.1987	08 48:53
5	05.09.1987	08 48:53
6	05.09.1987	08 48:53
7	05.09.1987	08 48:53
8	05.09.1987	08 48:53
9	05.09.1987	08 48:53
10	05.09.1987	08 48:53

PM-STEUF 81336	
CIRCUIT DIAGRAM	
354 348	1-
PSX2000	

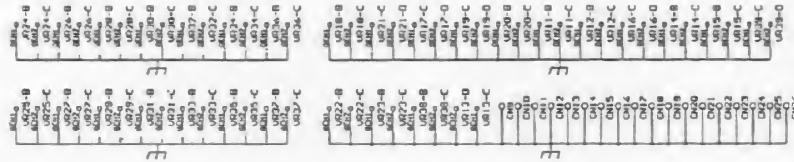


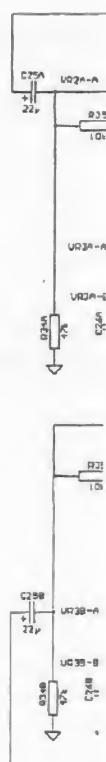
NOTES:

- AC VOLTAGE 1000 HZ, MEASURED WITH UTPI
- DC VOLTAGE MEASURED WITH VOLTMETER 1000HV-V
- FADED IN RATED POSITION
ADDITIONAL GAIN WITH FADER IN MAX. POSITION
- SAFETY COMPONENT
(MUST BE REPLACED BY ORIGINAL PART)

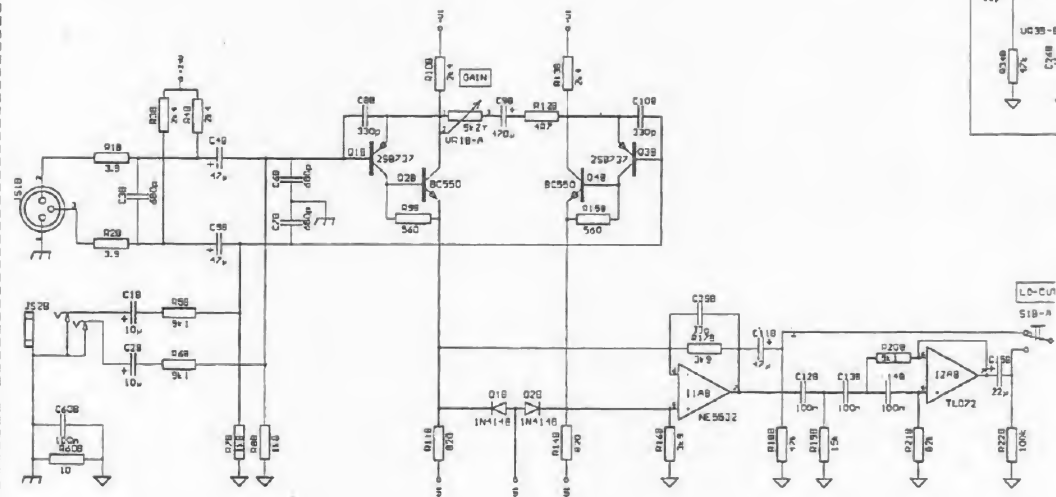
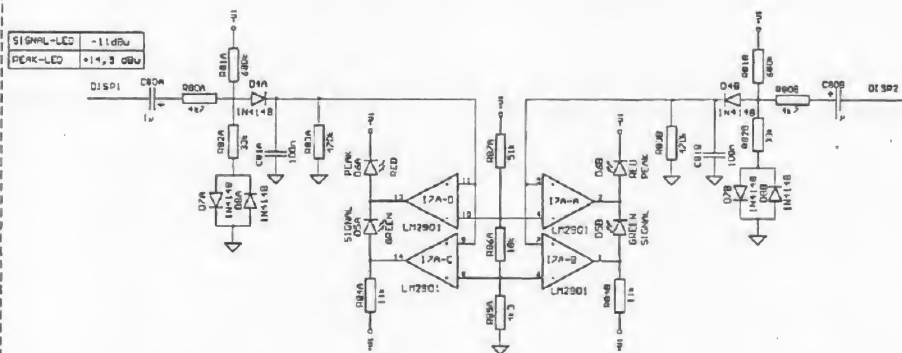
RATED CONDITIONS:

GAIN PTS MIN. DB MAX.
 ALL PTS IN CENTER-POSITION
 ALL FADERS AT 0dB
 MASTER-FADER-LO AT +0dB



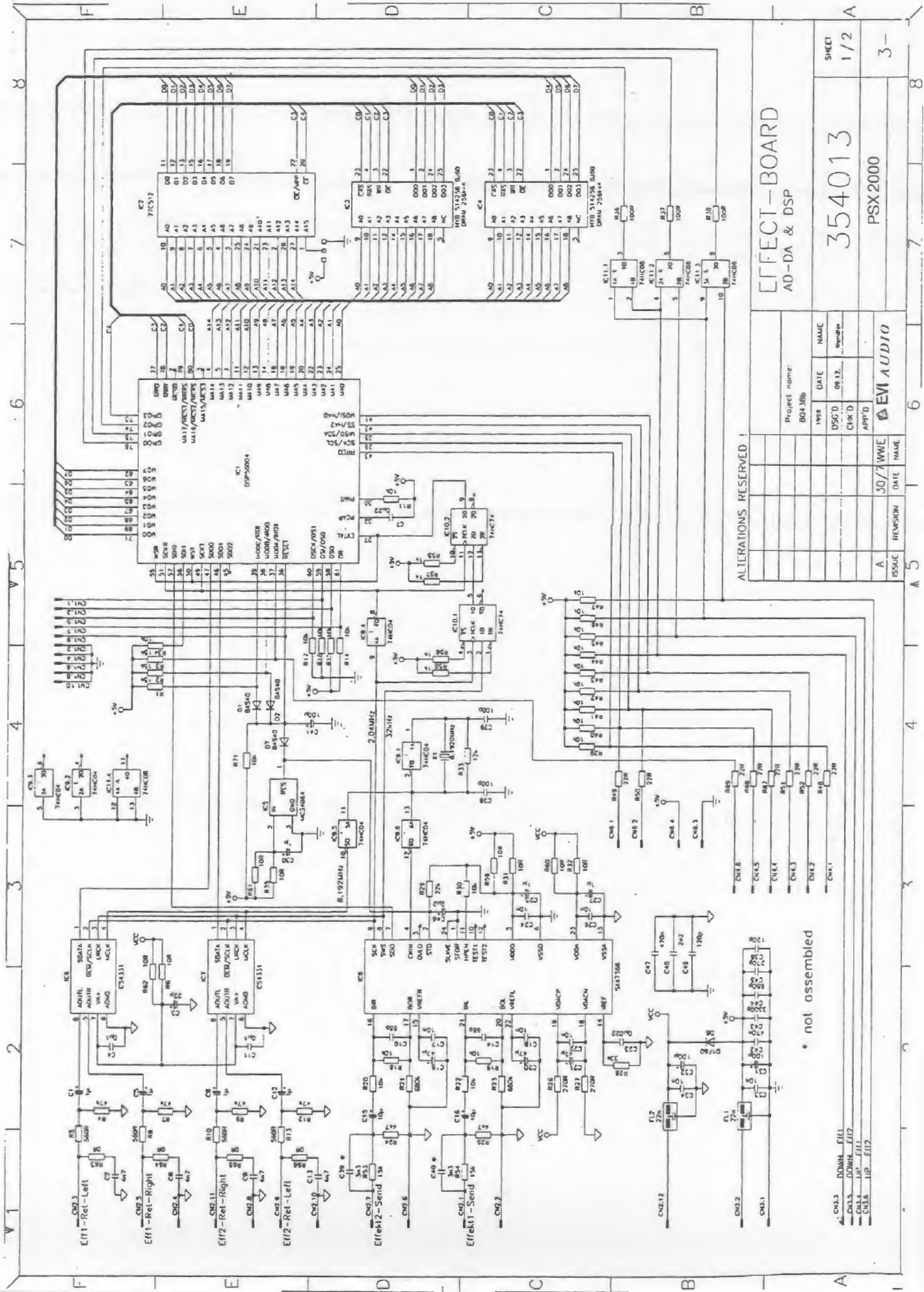


SIGNAL-LED	-11 dBu
PEAK-LED	+14,3 dBu



SAME AS CHANNEL A/B

SAME AS CHANNEL A/B



EFFECT-BOARD
AD-DA & DSP

Project name:			
BOA 100			
ISSUE	DATE	NAME	
DSC/D	09.12.	W. J. J.	
CHK'D			
APPRO'D			
ISSUE	REVISION	DATE	NAME
A	30/7/1991		

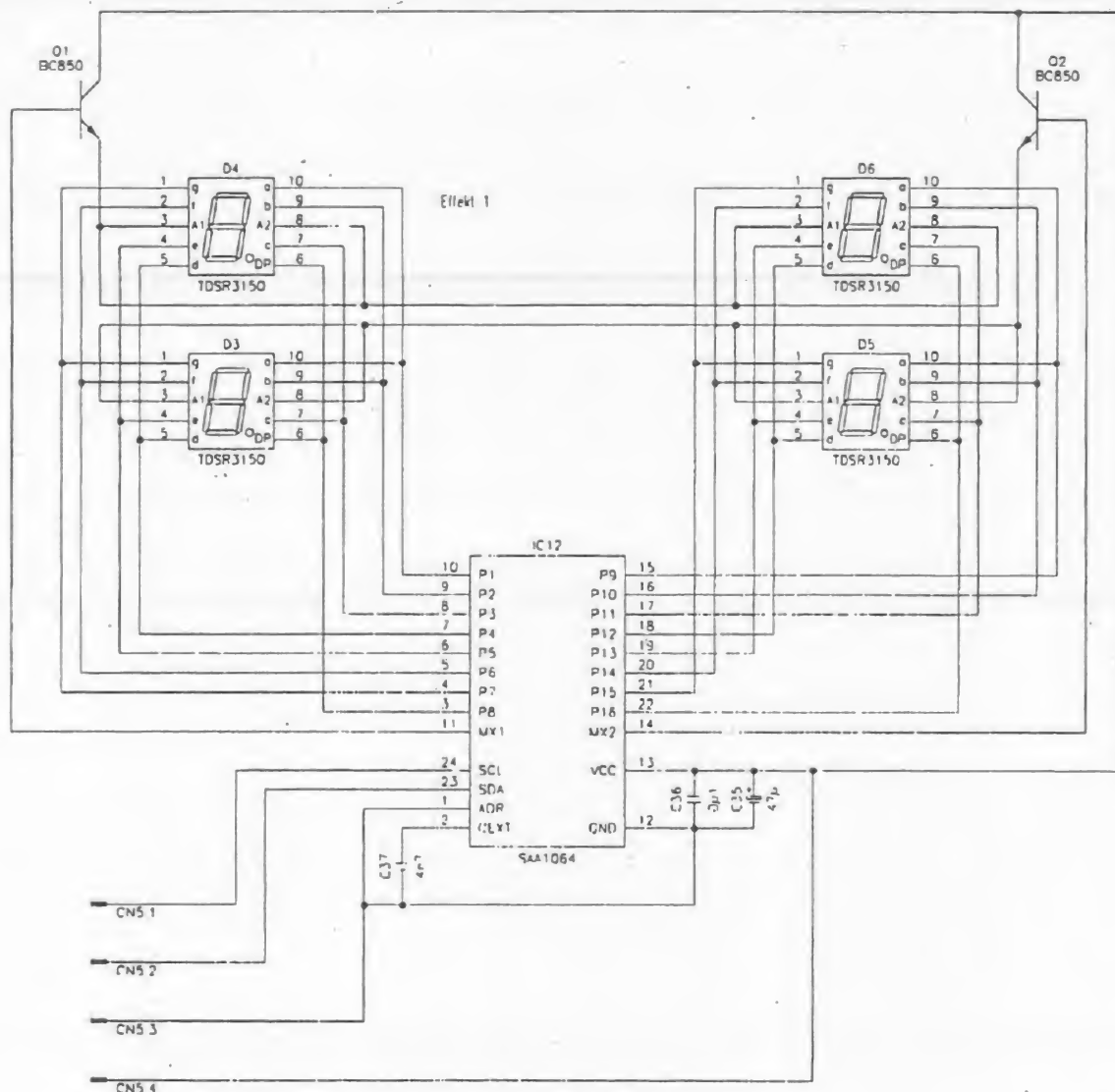
354013

PSX 2000

EMI AUDIO

* not assembled

- CH3.3 DOWN FIL1
- CH3.5 DOWN FIL1
- CH3.6 UP FIL1

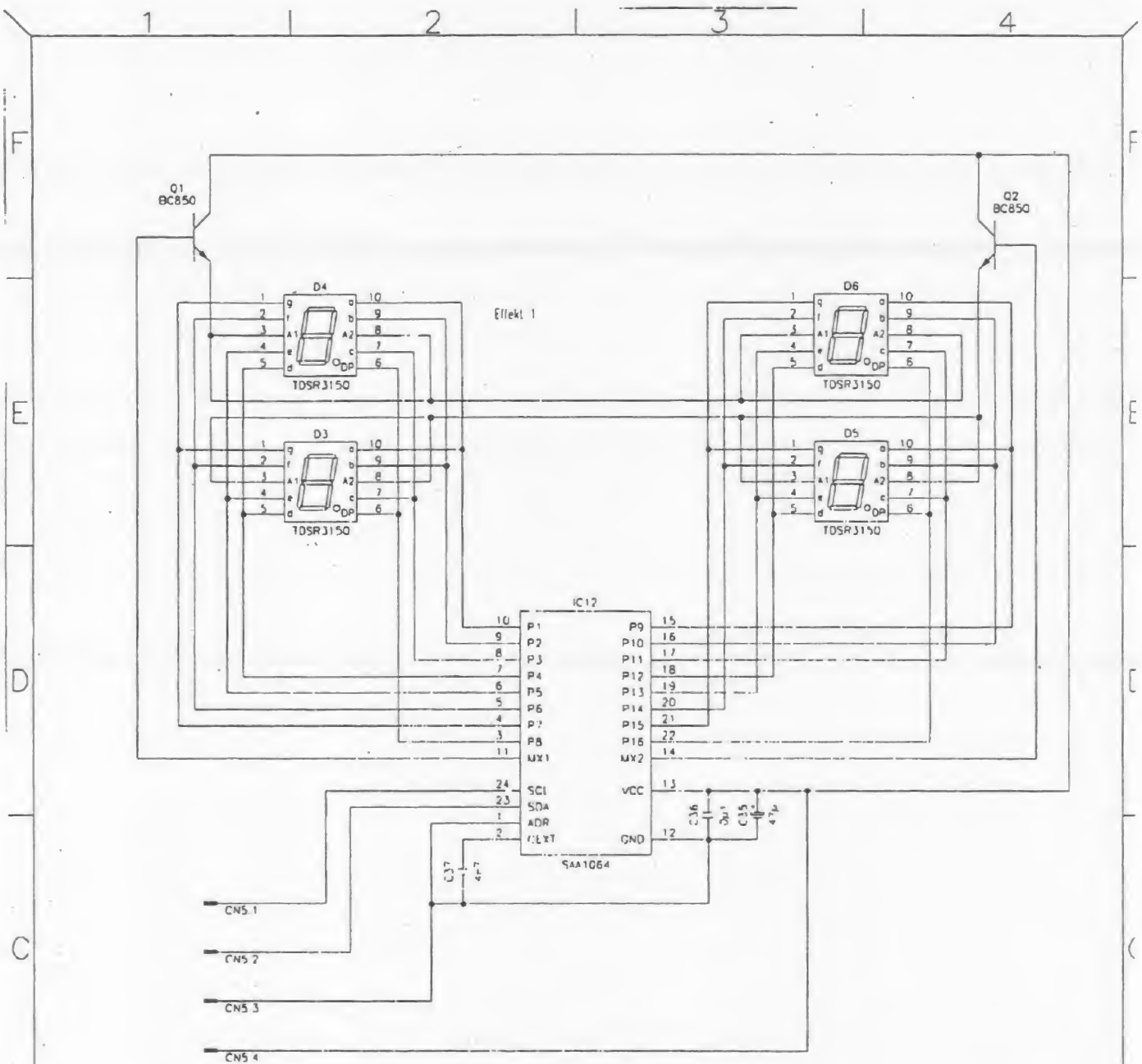


ALTERATIONS RESERVED !

					EFFECT-BOARD		
					Display		
					Project name		
					RD478h		
					1997	DATE	NAME
					DSG'D	02.04.	Wendler
					CHK'D	3/02	W
					APP'D	3/07	W
					EVI AUDIO		
					PSX2000		
					SHEET		
					2 / 2		
					4 -		
ISSUE	REVISION	DATE	NAME				

354015

PSX2000



ALTERATIONS RESERVED !

						EFFECT-BOARD	
					Project name	Display	
					RO4191		
					1997	DATE	NAME
					OSC'D	02.04.	Wendler
					CHK'D	3/02	Mr
					APP'D	3/02	Mr
					PSX2000		SHEET 2/2
					EVI AUDIO		4-
ISSUE	REVISION	DATE	NAME				

Electro Voice

Spare Parts List PSX 2000

Pos. No.	Part No.	Description
B0010	341343	speaker socket 4-pol
C0001	333014	safety cap 100nF/275V
G0010	343270	bridge rectifier GPC 3504
	355405	owner's manual PSX 2000
	355509	quick start PSX 2000
	346832	power cable
	353911	mylar window
	355153	knob fader
	355155	knob fader
	355154	knob fader
	355156	knob fader
	353879	push button
	353905	knob rotary
	353909	knob rotary
	353907	knob rotary
	353906	knob rotary
	353910	knob rotary
	341382	push button black
	348415	fan
	355465	skia panel left
	355468	skia panel right
	355437	handle
	355439	label
	355152	plastic nipple
	355151	latch
	355472	foam left
	355473	foam right
	357053	plastic bag
	355401	front panel PSX 2000
	355401	chassis PSX 2000
	355402	cover PSX 2000
	813348	Input p.c.b. "mic-channel"
CN01	348802	connector male 12-pin
CN02	345489	connector male 6-pin
C1A-F	340622	cap electrolytic 10uF/35V
C10A-F	301543	cap ceramic 330pF
C11A-F	346841	cap electrolytic 47uF/16V
C12/13/14A-F	339095	cap electrolytic 22uF/16V
C15A-F	340623	cap mylar 100nF
C16A-F	346841	cap electrolytic 47uF/16V
C17A-F	339095	cap mylar 100nF
C18/19A-F	328924	cap electrolytic 10uF/35V
C2A-F	340622	cap electrolytic 22uF/16V
C20A-F	340623	cap mylar 100nF
C21A-F	339094	cap electrolytic 22uF/16V
C22A-F	345461	cap ceramic 680pF
C23/24A-F	340623	cap electrolytic 22uF/16V
C25A-F	300303	cap mylar 180pF
C26A-F	335787	cap ceramic 15pF
C27A-F	339094	cap mylar 680pF
C28A-F	345461	cap ceramic 680pF
C3A-F	342934	cap mylar 33nF
C31A-F	340623	cap electrolytic 22uF/16V

Pos. No.	Part No.	Description
C37A-F	301530	cap ceramic 100pF
C39A-F	301558	cap ceramic 33pF
C45A-F	343530	cap electrolytic 47uF/50V
C8A-F	345461	cap ceramic 680pF
C60A-F	329021	cap ceramic 100nF
C61A-C	340622	cap electrolytic 10uF/35V
C62/63A-F	343532	cap electrolytic 100uF/25V
C64/65/66A-C	329021	cap ceramic 100nF
C67/68/69A-C	329021	cap ceramic 100nF
C7A-F	345461	cap ceramic 680pF
C8A-F	301543	cap ceramic 330pF
C80A-F	340620	cap electrolytic 1uF/50V
C81A-F	329021	cap ceramic 100nF
C9A-F	354031	cap electrolytic 470uF/10V
D1/2/4A-F	301254	diode 1N 4148
D5A-F	354004	led green
D6A-F	354003	led red
D7/8A-F	301254	diode 1N 4148
I1A-C	327197	IC NE 5532 N
I2A-C	331340	IC TL 072 CP
I3A-C	327197	IC NE 5532 N
I4/5A-C	331340	IC TL 072 CP
I6A-C	327197	IC NE 5532 N
I7A-C	343502	IC LM 2801
J51A-F	354000	xfr connector female
J52/3A-F	354001	phone jack
Q1/3A-F	343536	transistor 2SB 737 S
Q2/4A-F	301184	transistor BC 550 B
R62/63A-C	329215	safety resistor 10 ohm
S1/2/3A-F	354006	switch pc vert 2pdt
VR06A-F	354282	fauler 10K A
VR1A-F	352323	pot 5k XX
VR10A-F	352329	pot 2x20k K
VR2A-F	352325	pot 10k B
VR3A-F	352326	pot 2x500k C
VR4/5A-F	352324	pot 50k B
VR7A-F	352327	pot 2x10k AC
VR8/9A-F	352328	pot 20k K
	813368	Input p.c.b. "line-channel"
CN001	348802	connector male 12-pin
CN002	345489	connector male 6-pin
C001/2/3A-D	345461	cap ceramic 680pF
C004/5A-D	343530	cap electrolytic 47uF/50V
C006A-D	301543	cap ceramic 330pF
C007A-D	354031	cap electrolytic 470uF/10V
C008A-D	301543	cap ceramic 330pF
C009A-D	301558	cap ceramic 33pF
C010A-D	329021	cap ceramic 100nF
C020/21A-D	345461	cap ceramic 680pF
C022/23A-D	345461	cap ceramic 680pF
C024/25A-D	308059	cap ceramic 3.9pF
C026/27A-D	308059	cap ceramic 3.9pF
C028/29A-D	354031	cap electrolytic 470uF/10V
C030/31A-D	301558	cap ceramic 33pF
C034/35A-D	342932	cap mylar 15nF
C036/37A-D	342934	cap mylar 33nF
C038/39A-D	342932	cap mylar 15nF
C040/41A-D	342932	cap mylar 15nF
C042/43A-D	342934	cap mylar 33nF
C044/45A-D	342932	cap mylar 15nF
C046/47A-D	340623	cap electrolytic 22uF/16V

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Pos. No.	Part No.	Description
C0318	329021	cap ceramic 100nF
C0319-320	301558	cap ceramic 33pF
C0321-326	340523	cap electrolytic 22uF/16V
C0327	335787	cap ceramic 15pF
C0328	340523	cap electrolytic 22uF/16V
C0329	335787	cap ceramic 15pF
C0330-331	340523	cap electrolytic 22uF/16V
C0332	340524	cap electrolytic 100uF/16V
C0333-334	345461	cap ceramic 680pF
C0335	329021	cap ceramic 100nF
C0336-337	301558	cap ceramic 33pF
C0338-343	340523	cap electrolytic 22uF/16V
C0345-350	329021	cap ceramic 100nF
C0351	340524	cap electrolytic 100uF/16V
C0352-353	345461	cap ceramic 2200pF
C0354	301558	cap ceramic 100nF
C0355-356	340523	cap electrolytic 22uF/16V
C0357-358	301558	cap ceramic 33pF
C0359-360	340523	cap electrolytic 22uF/16V
C0361-362	301558	cap ceramic 33pF
C0363-364	345461	cap ceramic 100nF
C0365	329021	cap ceramic 100nF
C0400-401	340524	cap electrolytic 100uF/16V
C0402-403	335787	cap ceramic 15pF
C0404-405	340523	cap electrolytic 22uF/16V
C0406	325823	cap mylar 3300pF
C0407	340523	cap electrolytic 22uF/16V
C0408	342836	cap mylar 150nF
C0409-410	340523	cap electrolytic 22uF/16V
C0411	335787	cap ceramic 15pF
C0412	340524	cap electrolytic 100uF/16V
C0413-414	345461	cap ceramic 680pF
C0415	329021	cap ceramic 100nF
C0416-417	345461	cap ceramic 680pF
C0418-419	301558	cap ceramic 33pF
C0420-421	340523	cap electrolytic 22uF/16V
C0422	329021	cap ceramic 100nF
C0423-424	345461	cap ceramic 680pF
C0425-426	340523	cap electrolytic 22uF/16V
C0427-428	329021	cap ceramic 100nF
C0429	340523	cap electrolytic 22uF/16V
C0450	329021	cap ceramic 100nF
C0451-454	345461	cap ceramic 680pF
C0455-456	301558	cap ceramic 33pF
C0457-458	340523	cap electrolytic 22uF/16V
C0502-503	345461	cap ceramic 680pF
C0505	301558	cap ceramic 33pF
C0506-507	340523	cap electrolytic 22uF/16V
C0509	301558	cap ceramic 33pF
C0510-511	340524	cap electrolytic 100uF/16V
C0512-515	345461	cap ceramic 680pF
C0515	345461	cap ceramic 680pF
C0516-517	329021	cap ceramic 100nF
C0522-523	300050	cap mylar 330pF
C0524-525	342832	cap mylar 15nF
C0526-527	327392	cap mylar 3900pF
C0528-529	328365	cap mylar 560pF
C0530-531	342832	cap mylar 15nF
C0532-533	342833	cap mylar 22nF
C0534-535	325822	cap mylar 1nF
C0536-537	344109	cap mylar 56nF
C0540-541	327391	cap mylar 1500pF

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Pos. No.	Part No.	Description
C0544-545	342833	cap mylar 22nF
C0546-547	327393	cap mylar 4700pF
C0548-549	340244	cap mylar 330nF
C0552-553	337181	cap mylar 10nF
C0554-557	340988	cap mylar 470nF
C0560-561	344105	cap mylar 27nF
C0562-565	329021	cap ceramic 100nF
C0566-567	340523	cap electrolytic 22uF/16V
C0568-571	345461	cap ceramic 680pF
C0572-573	301558	cap ceramic 33pF
C0574	329021	cap ceramic 100nF
C0575	340523	cap electrolytic 22uF/16V
C0576-577	340524	cap electrolytic 100uF/16V
C0578-581	329021	cap ceramic 100nF
C0582-583	340521	cap electrolytic 2.2uF/50V
D0001	301254	diode 1N 4148
D0003-10	354004	led green
D0011-12	354005	led yellow
D0013-20/31	354004	led green
D0021-22	354005	led yellow
D0023-26	301254	diode 1N 4148
D0027-28	354003	led red
D0028/32	354005	led yellow
D0033-34	354003	led red
D0035	329511	diode zener BZX 55C 2V4
D0036-37	354004	led green
D0038	328788	diode zener ZPD 5V1
D0040	354003	led red
E0001	333019	relay 24V
I0009-10	327197	IC NE 5532 N
I0011-13	331340	IC TL 072 CP
I0014/16	327197	IC NE 5532 N
I0015/17/18	331340	IC TL 072 CP
I0019	344884	IC NJM 4558 D
I0020/25	327197	IC NE 5532 N
I0021-24	331340	IC TL 072 CP
I0026-28	331340	IC TL 072 CP
I0030-36	327197	IC NE 5532 N
I0037-41	343502	IC LM 2901
I0042/44	331340	IC TL 072 CP
I0043/45	327197	IC NE 5532 N
JS001	354000	xfr connector female
JS005-11	354001	phone jack
JS012	354002	connector chdch
JS013-23	354001	phone jack
Q0006-7	301184	transistor BC 550 B
Q0008-9	330264	transistor J 111 A
Q0010-14	301184	transistor BC 550 B
Q0015	307150	transistor BC 337-25
Q0016-17	330628	transistor BC 560 G
Q0018-19	330264	transistor J 111 A
R0001-302	329215	safety resistor 10 ohm
R0437-438	329215	safety resistor 10 ohm
R0552-553	329215	safety resistor 10 ohm
R0575/577	329215	safety resistor 10 ohm
S10/15	354006	switch pc vert 2pdl
S11-14	354008	switch pc vert 2pdl
S2-9	354008	switch pc vert 2pdl
VR11-12	352828	pot 20k K
VR13/16	354263	pot 2x10k A
VR14-15	352828	pot 20k K
VR17	354268	pot 2x100k C

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Pos. No.	Part No.	Description
VR19	352829	pot 2x20k K
VR20	352828	pot 20k K
VR21	352829	pot 2x20k K
VR22	354414	lader 10k A / selected
VR001	354262	lader 10k A
VR23	354414	lader 10k A / selected
VR24-37	354264	lader 10k B
VR38	354262	lader 10k A
VR39	352829	pot 2x20k K
841708		power amp p.c.b. S/A
CQHAS	329021	cap ceramic 100nF
CNSER	354306	connector male 16-pin
CN001	345489	connector male 6-pin
CN002	349105	connector male 20-pin
CN012-14	348334	connector male 3-pin
CN015	341937	connector male 4-pin
C0301	343532	cap electrolytic 100uF/25V
C0302-307	329021	cap ceramic 100nF
C0308/313	343532	cap electrolytic 100uF/25V
C0309	340521	cap electrolytic 2.2uF/50V
C0310	301530	cap ceramic 100pF
C0311-312	340988	cap mylar 470nF
C0314	335787	cap ceramic 15pF
C0315-316	343532	cap electrolytic 100uF/25V
C0317	327390	cap mylar 470pF
C0318	301558	cap ceramic 33pF
C0319	337237	cap mylar 47nF
C0320	342936	cap mylar 150nF
C0321	341276	cap mylar 12nF
C0322	344109	cap mylar 50nF
C0323-324	341714	safety cap 100nF/25V
C0325-328	335787	cap ceramic 15pF
C0327	301474	cap bip electr. 22uF/16V
C0328-329	354304	cap ceramic 330pF
C0330	301458	cap electrolytic 2.2uF/63V
C0331-332	342923	cap mylar 220nF
C0333	335787	cap ceramic 15pF
C0334	340522	cap electrolytic 10uF/35V
C0335	344105	cap mylar 27nF
C0337	301558	cap ceramic 33pF
C0501	343532	cap electrolytic 100uF/25V
C0502-507	329021	cap ceramic 100nF
C0508	343532	cap electrolytic 100uF/25V
C0509	340521	cap electrolytic 100uF/25V
C0510	301530	cap ceramic 100pF
C0511-512	340988	cap mylar 470nF
C0513	343532	cap electrolytic 100uF/25V
C0514	335787	cap ceramic 15pF
C0515-516	343532	cap electrolytic 100uF/25V
C0517	327390	cap mylar 470pF
C0519	337237	cap mylar 47nF
C0520	342936	cap mylar 150nF
C0521	341276	cap mylar 12nF
C0522	344109	safety cap 100nF/25V
C0523-524	341714	cap bip electr. 22uF/16V
C0525-526	335787	cap ceramic 15pF
C0527	301474	cap bip electr. 22uF/16V
C0528-529	354304	cap ceramic 330pF
C0530	301458	cap electrolytic 2.2uF/63V
C0531-532	342923	cap mylar 220nF
C0533	335787	cap ceramic 15pF

POS.	DESCRIPTION	PART NO.
27	KNOB	353 905
28	POTENTIOMETER	352 330
29	KNOB	353 909
30	POTENTIOMETER	352 331
31	KNOB	353 879
32	KEY	354 008
33	ACRYL WINDOW	353 911
34	HANDLE	355 437
35	LABEL	355 439
36	COVER	355 402
37	LATCH	355 451
38	PLASTIC NIPPLE	355 452
39	SCREW M3x6	352 822
40	SCREW M3x6	355 027
41	SCREW M3x6	358 835
42	SCREW M3x6	304 251
43	SCREW 3/8x9.5	355 401
44	CHASSIS	329 557
45	SCREW M4x10	334 989
46	SCREW M3x6	337 044
47	DOVE-PLUG	351 850
48	FUSE 15A	341 382
49	KNOB	349 114
50	MARKS SWITCH	341 343
51	SPRINK CONNECTOR	353 396
52	SCREW M3x8	
53	ACCESSORIES	
54	GOOSENECK LAMP	412 700
55	REPLACEMENT BULB	350 319

POS.	DESCRIPTION	PART NO.
1	SIDE PANEL LEFT	353 465
2	KNOB	353 905
3	POTENTIOMETER	352 323
4	KNOB	353 909
5	POTENTIOMETER	352 324
6	KNOB	353 910
7	POTENTIOMETER	352 326
8	KNOB	353 909
9	POTENTIOMETER	352 325
10	KNOB	353 907
11	POTENTIOMETER	352 328
12	KNOB	353 908
13	POTENTIOMETER	352 329
14	KNOB	353 909
15	POTENTIOMETER	352 327
16	KNOB	353 879
17	SWITCH	354 006
18	KNOB	355 453
19	FADER	354 262
20	KNOB	355 453
21	FADER	354 262
22	KNOB	355 453
23	FADER	354 263
24	KNOB	355 455
25	FADER	354 263
26	KNOB	355 454
27	FADER	354 262
28	KNOB	355 456
29	FADER	354 262
30	KNOB	355 456
31	FADER	354 264
32	KNOB	354 414
33	POTENTIOMETER	353 906
34	POTENTIOMETER	352 328
35	KNOB	353 910
36	POTENTIOMETER	354 288
37	KNOB	353 909
38	POTENTIOMETER	352 329
39	KNOB	353 848
40	FADER	354 264
41	KNOB	353 906
42	POTENTIOMETER	352 328
43	SIDE PANEL RIGHT	355 466
44	SCREW M3x8	352 022
45	CINCH CONNECTOR	354 002
46	SCREW 3/8	344 229
47	PHONE JACK	354 001
48	FRONT PANEL	355 400
49	XLR CONNECTOR	354 000
50	SCREW 3/8	344 229

